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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,955	06/03/2002	James A. Clagett	49180 (71789)	8676

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EXAMINER	
MOHAMED, ABDEL A	
ART UNIT	**PAPER NUMBER**
1653	

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/031,955	Applicant(s) CLAGETT, JAMES A.	
	Examiner Abdel A. Mohamed	Art Unit 1653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2002*.

2a)☐ This action is FINAL. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

ACKNOWLEDGMENT FOR PRIORITY, STATUS OF THE APPLICATION AND CLAIMS

1. This application is filed under 35 U.S.C. 371 on 6/3/02 having a filing date of 7/14/00 of PCT/US00/19496. Acknowledgment is made of Applicant's claim for priority based on U.S. Provisional Application No. 60/144,539 having a filing date of 7/16/99. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119, which papers have been placed of record in the file. Claims 1-6 are now present for examination.

OBJETION TO THE SPECIFICATION

2. This application does not contain page 16 because the sentence of last line on page 15 appears to be incomplete. It ends by stating ".....can be used in the preparation of" and the next sentence appears on page 17 on a new paragraph by stating "A protocol for administration.....". Page 16 is a blank with a statement "Missing upon filing". Thus, it is clear that page 16 is missing. Appropriate correction is required.

CLAIMS REJECTION-35 U.S.C. § 103(a)

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/25372 taken with Delespesse et al., Immunol. Rev., Vol. 15, pp. 77-97, 1992.

WO 97/47645 discloses on page 6, last paragraph, a pharmaceutical formulation for administering to a mammal an effective amount of a peptide having the formula f-Met-Leu-X where X is selected from the group consisting of Tyr, Tyr-Phe, Phe-Phe and Phe-Tyr to treat inflammation connected with asthma, arthritis and anaphylaxis to reduce the production of IgE antibodies. Such treatment was used to treat inflammation, allergic reactions and hypersensitivity, which are indications that can result from an IgE mediated response and as such meets the limitation of claim 1. On page 8, paragraph 4, the reference discloses the administration of another active ingredient in combination with said peptide, wherein said active ingredient is selected from the group consisting of anti-leukotrienes, $beta_2$ agonists, corticosteroids, and the like. Thus, meeting the limitation of claim 2. The reference on page 8, paragraph 2, provides a method for reducing the production of IgE antibodies and reducing or blocking IgE cross-linking at the site of inflammation in a patient. The method comprises administering to the patient an IgE antibody production inhibiting effective amount of a peptide having the formula f-Met-Leu-X where X is selected from the group consisting of Tyr, Tyr-Phe, Phe-Phe and Phe-Tyr. Such statement for reducing the production of IgE is the same as downregulating IgE and as such meets the limitation of claim 3. Also, on page 7, paragraph 2, the reference discloses a method for inhibiting the degranulation of mast cells which is part of plasma cells by contacting the mast cells with a degranulation inhibiting amount of a peptide having the formula f-Met-Leu-X where X is selected from the group consisting of Tyr, Tyr-Phe, Phe-Phe and Phe-Tyr as directed to claim 6.

The reference of WO 99/25372 differs for the claims in not teaching the use of IgE receptors and CD40 ligand as recited in claims 4 and 5 in a method of downregulating said IgE receptors and CD40 ligand. However, the secondary reference of Delespesse et al. on page 77 states that the low-affinity for IgE (FcεRII or CD23) from the superfamily FcR receptor is expressed on the surface of several cell types, but also as the membrane precursor of a soluble lymphokine with pleiotropic activities. The function of CD23, which has been unequivocally documented in vivo, is its ability to bind IgE, whereas the other activities ascribed to CD23 or its soluble form have been observed *in vitro*. Thus, on the surface of B cells, FcεRII/CD23 plays a role in IgE-dependent antigen presentation to T cells and also in the cross-linking of B cells. Further, on page 80, the reference discloses the relation of CD40 and CD23 which is soluble form of FcεRII by stating that several B cell activation signal markedly increase the IL-4 induced expression of CD23; these signals may be delivered by contact-dependent interactions with T cells, or by the engagement of either sIg, CD40 or CD72. On page 90, the reference concludes by stating that FcεRII/CD23 as an IgE receptor, this type II membrane molecule exists in two forms differing by their cellular distribution, their signal transduction pathway and their functions. There is little doubt that, on inflammatory cells, type B FcεRII/CD23 is involved in IgE-dependent protective immunity against parasites and in IgE-mediated inflammatory reactions. Thus, the reference clearly shows that the activities of FcεRII/CD23 receptors are IgE-dependent.

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the primary reference's teachings of using small peptides having the formula f-Met-Leu-X where X is selected from the group consisting of Tyr, Tyr-Phe, Phe-Phe and Phe-Tyr to reduce the production of IgE antibodies at the site of the inflammation in a patient, which consisted of administering an effective amount of the peptide to elicit the desired

response in the treatment of inflammation, asthma, anaphylaxis, etc., into the secondary reference's teachings of the use of IgE receptors and CD40 ligand in a method of downregulating said IgE receptors and CD40 ligand.

Therefore, the combined teachings of the prior art makes obvious the use of small peptides such as N-formyl-methionine peptides, having downregulating activity of IgE and to methods for treating indications resulting from IgE-mediated responses, absent of sufficient objective factual evidence or unexpected results to the contrary.

CITATION OF RELEVANT PRIOR ART

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abe et al. (U.S. Patent No. 4,929,623) discloses the use of a benzothiazol compound, which is effective to inhibit the production of leukotriene. The compound is useful against allergy, asthma, affection of the skin, allergic rhinitis and affection of cardiovascular system which are considered to because by leukotrienes.

CONCLUSION WITH FUTURE CORRESPONDANCE

5. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdel A. Mohamed whose telephone number is (571) 272-0955. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00 p.m. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S.F. Low can be reached on (571) 272-0951. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 305-7401 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Mohamed/AAM

February 5, 2004

CHRISTOPHER S. F. LOW
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600